

IN THE UNITED STATES DISTRICT COURT  
FOR THE DISTRICT OF DELAWARE

ON SEMICONDUCTOR CORPORATION  
and SEMICONDUCTOR COMPONENTS  
INDUSTRIES, LLC,

Plaintiffs,

v.

POWER INTEGRATIONS, INC.,

Defendant.

REDACTED PUBLIC VERSION

C.A. No. 17-247-LPS

**BRIEF IN SUPPORT OF PLAINTIFFS'  
OPPOSITION TO DEFENDANT'S MOTION FOR SUMMARY JUDGMENT**

*Of Counsel:*

Roger Fulghum  
BAKER BOTTS L.L.P.  
One Shell Plaza  
910 Louisiana Street  
Houston, TX 77002-4995  
(713) 229-1707

Colette Reiner Mayer  
Morrison & Foerster LLP  
755 Page Mill Road  
Palo Alto, CA 94304-1018  
(650) 813-5600

Nicholas Schuneman  
BAKER BOTTS L.L.P.  
98 San Jacinto Blvd.  
Austin, TX 78701  
(512) 322-2631

ASHBY & GEDDES  
John G. Day (#2403)  
Andrew C. Mayo (#5207)  
500 Delaware Avenue, 8th Floor  
P.O. Box 1150  
Wilmington, DE 19899  
(302) 654-1888  
jday@ashbygeddes.com  
amayo@ashbygeddes.com

*Attorneys for Plaintiffs*

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Plaintiffs ON Semiconductor Corporation and Semiconductor Components Industries, LLC (collectively Plaintiffs or “ON”) respectfully request that the Court deny defendant Power Integrations, Inc.’s (“PI”) motion for summary judgment as set out below.

**I. PI has not shown that the ’211 patent is invalid**

PI’s motion recycles invalidity arguments from its failed petition for *inter partes* review on the ’211 patent. In that IPR petition, PI argued (as it argues here) that the invention claimed in the ’211 patent adds only one feature over the prior art (Ex. 01, IPR2018-00399, IPR Petition, Paper #2 at 6–7), that a reference by Shimizu anticipated the claims (*id.* at Section IV.A), and that the claims were obvious because multiple prior art references, including Shimizu ’752, Hoshino, and Iiyama, taught coupling leads together for heat dissipation (*id.* at 11–12). The Patent Trial and Appeal Board considered and rejected those arguments, finding that PI had not shown a reasonable likelihood that it could prove invalidity by a preponderance of evidence and declining to even institute review of the ’211 patent. Ex. 02, IPR2018-00399, Decision Denying Institution of *Inter Partes* Review, at 21–22 (“Petitioner cites additional references, i.e., Hoshino . . . [and] Shimizu ’752 . . . [W]e are not persuaded that Petitioner has established that the references cited in the challenge teaches or suggests [sic] the limitations [of the challenged claims].”). Having failed under that much lower standard, PI now asks the Court to find as a matter of law that essentially the same references and arguments invalidate the claims.

PI has not met that burden. PI’s motion does not present a single claim chart or even recite the language of the claims PI asks the Court to find invalid as a matter of law. For anticipation, PI does not compare every element of the asserted claims to the prior art (as it must), but instead compares *some* claim elements to a “hypothetical structure” that PI’s attorneys created. For obviousness, PI relies on a new combination of references that was not disclosed in PI’s invalidity contentions and advances a legally insufficient “point of novelty” analysis that fails to establish

that the claimed invention, as a whole, was obvious. Summary judgment is therefore inappropriate.

**A. PI has not shown that Shimizu '752 anticipates claims 1 and 9 of the '211 patent as a matter of law**

**1. Response to PI's Statement of Facts**

ON disputes at least the following allegedly undisputed statements of fact in PI's motion.<sup>1</sup> Additional facts and factual disputes are identified in the argument that follows.

1. Shimizu '752 and the '211 patent disclose *different* techniques for improving thermal performance of a semiconductor device.

2. Shimizu '752 discloses a fin structure lacking the “common leads” and “coupling portion” recited in the asserted claims of the '211 patent. In particular, Shimizu '752 teaches that the structure PI seemingly maps to the “coupling portion” limitation is “cut away” during manufacturing. Shimizu '752 (A112).

3. and 4. ON does not dispute that PI's expert offered such an opinion. As discussed in detail below, however, ON has identified evidence that contradicts PI's expert's opinion and there are thus genuine disputes of fact.

5. ON's expert has explained that a person of ordinary skill in the art would understand Shimizu '752 to teach that the metal between the alleged leads is removed. Ex. 03, Declaration of Dr. Paul Kohl at ¶¶ 7–11.

6. At least for the reasons explained below, ON's expert disputes PI's interpretation of the structure that Shimizu '752 discloses.

7. ON disagrees that the “hypothetical physical structure” illustrated in PI's brief “mirror[s] Shimizu '752.” As discussed in more detail below, the hypothetical structure appears to be based

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<sup>1</sup> In this brief, ON refers to PI's “Statement(s) of Undisputed Fact” using the numbering in PI's motion.

on Figure 1 of the '211 patent.

9. ON's expert has explained that a person of ordinary skill in the art would understand that the structures identified in the '211 patent do not have a "common electrical potential" as that term is used in the '211 patent (and, thus, the Court's construction), because they serve "no electrical function or electrical potential." *See* Kohl Invalidity Rebuttal Report at ¶ 53 (A509).

10. ON disputes this fact to the extent it implies that ON's and PI's experts agree regarding the disclosure of Shimizu '752 (they do not).

11. PI's "i.e." clause mischaracterizes the quoted portion of ON's expert's report. Indeed, Dr. Kohl disputes that Shimizu '752 even discloses "common leads" at all. *Id.*

## **2. Argument**

PI's motion fails to establish that claims 1 and 9 of the '211 patent are anticipated by Shimizu '752. PI did not compare every element of those claims to Shimizu '752 and fact issues exist as to whether Shimizu '752 discloses several claim elements.

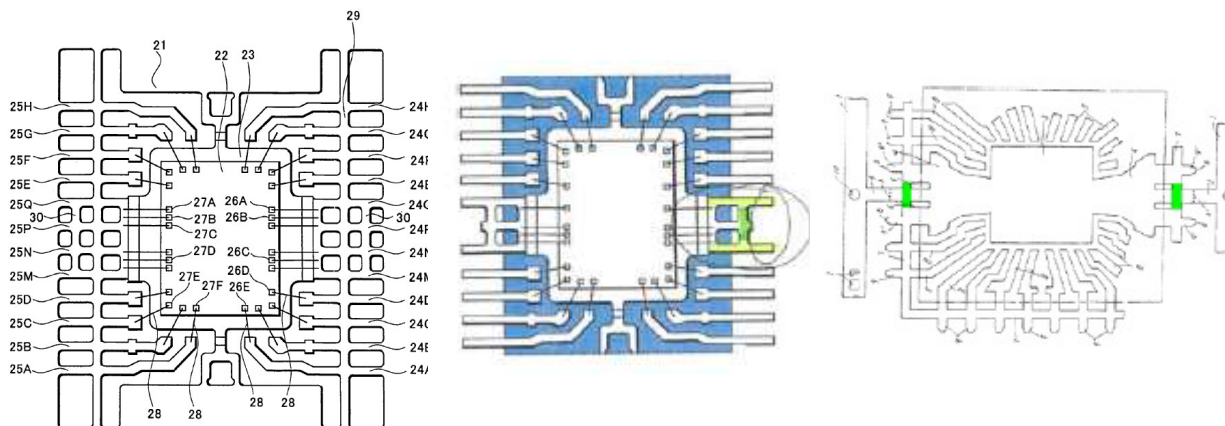
### **(i) PI failed to compare the claim language to the prior art**

Anticipation "requires that the four corners of a single, prior art document describe every element of the claimed invention, either expressly or inherently." *Advanced Display Systems, Inc. v. Kent State University*, 212 F. 3d 1272, 1283 (Fed. Cir. 2000). PI has not shown there is no dispute of material facts regarding whether Shimizu '752 anticipates claims 1 and 9 of the '211 patent. Indeed, PI offers *virtually no* evidence in support of its motion. PI is essentially silent on the claim language and does not compare the disclosure of its allegedly anticipatory reference to the elements of claims 1 and 9. For this reason alone, PI's motion should be denied.

PI short-circuits the required analysis by alleging that "ON's expert admitted that [a] hypothetical physical structure . . . mirroring Shimizu . . . disclosed various claim elements, including common leads . . . and an allegedly innovative coupling portion." PI Br. at 6 (emphasis



added). That is wrong for several reasons. As an initial matter, PI’s “hypothetical structure” bears closer resemblance to Figure 1 of the ’211 patent than it does to Shimizu ’752.



From left-to-right: Figure 1 of Ex. 04, the ’211 Patent; PI’s “hypothetical structure” (PI Br. at 6); and Figure 1 of Shimizu ’752 (*id.*). More importantly, PI’s hypothetical structure analysis cannot satisfy PI’s burden for two reasons.

First, anticipation requires a showing that each element of the claim at issue is found *in a prior art reference*. *Tate Access Floors, Inc. v. Interface Architectural Resources, Inc.*, 279 F.3d 1357 (Fed.Cir.2002) (“[I]t is the presence of the prior art and its relationship to the claim language that matters for invalidity.”). But PI ignores the alleged prior art (Shimizu ’752) and compares the claims only to a “*hypothetical* structure” not found in any prior art reference. For example, PI’s motion uses yellow highlighting to allege that the hypothetical structure includes the recited “common leads,” but PI never identifies where in Shimizu ’752 that recited claim element can be found. *See* PI Br. at 6. PI’s hypothetical structure analysis is similarly deficient on nearly every single limitation of claims 1 and 9 and its failure to compare the claim language to the *prior art* is reason alone to deny PI’s motion for summary judgment.

Second, PI’s hypothetical anticipation analysis addresses only two of the many elements recited in claims 1 and 9. PI argues only that ON’s expert “admitted” that the hypothetical structure

includes the recited common leads and coupling portion. But claims 1 and 9 recite numerous limitations beyond those two elements, and PI has not attempted to show that even its non-prior art hypothetical structure discloses any of those additional element (much less that Shimizu '752 does). Thus, PI alleges merely that some (but not all) elements of the claim are present in a “hypothetical structure.” PI fails to show, however, that *every element* of the asserted claims is present *in the prior art*, as it must to prove anticipation. *Advanced Display Systems*, 212 F. 3d at 1283. That alone is reason to deny PI’s motion for summary judgment.

**(ii) A genuine dispute exists whether Shimizu '752 discloses all elements of claims 1 and 9**

Moreover, even if PI had attempted to show that Shimizu '752 includes all elements of claims 1 and 9 (it did not), genuine disputes of material fact exist regarding multiple claim elements. ON’s expert witness, Dr. Paul Kohl, opined that Shimizu '752 lacks at least claim elements [1b] “a plurality of discrete leads each having an end extending near the island; a plurality of common leads coupled to the island,” [1c] “a resin sealing body molding the semiconductor element, the island, and the discrete leads, and the common leads,” and [1d] “wherein the common leads projecting out from the resin sealing body are provided with a coupling portion.” A509 at ¶¶ 53–55.

Although PI does not specify in its motion, PI’s expert opined that the heat-dissipating fins 4 of Shimizu '752 satisfy the “common leads” limitation of claim element [1b]. Elenius Invalidity Opening Report at ¶¶ 257–59 (A450). Dr. Kohl has opined, however, that these “fins are only for cooling and have no electrical function or electric potential” and therefore do not satisfy the “common leads” limitation as construed by the Court (i.e., “leads with a common electrical potential each beginning inside of and extending outside of the resin-sealing body”). A509 at ¶ 53; *see also* A112–13 (consistently referring to the fins as “heat-dissipating fins 4”). PI

and its expert may disagree with Dr. Kohl’s analysis of the purpose and use of these fins, but that merely establishes a dispute of fact that makes summary judgment inappropriate.

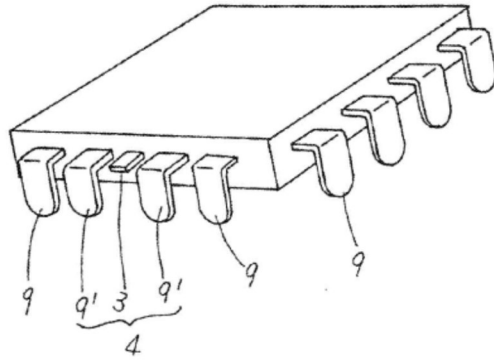
Regarding claim element [1d], PI again fails to make clear what portion of Shimizu ’752 allegedly satisfies the “coupling portion” limitation in claim 1 of the ’211 patent. PI appears to map this element to “tie-bar 7.” The ’211 patent also discusses tie bars, but it explains that tie bars are *not* the recited “coupling portions.” In describing one embodiment, the ’211 patent explains that tie bars are separate structures distinct from the claimed coupling portions:

In this embodiment, the coupling portions 30 are located at the middle positions between the tie bars 29 and the ends of the common leads 24M and the like.

Ex. 04 at 3:33–36 (describing Figure 1 of the ’211 Patent). The ’211 patent further teaches that, unlike the coupling portions, the tie bars are removed from the invention after molding. *Id.* at 3:54–57 (“After molding, the *tie bars 29 are cut off* so that the discrete leads 24A and the like are electrically independent. Therefore, the common leads 24M and the like are coupled by the coupling portions 30.”); *see also* A505 at ¶ 22 (“The frame and dam bars are not permanent parts of the lead-frame package. They are removed after formation of the resin sealing body.”). Similarly, Shimizu ’752 explains that tie-bars 7 are removed as part of the manufacturing process:

In addition, when the *dam tie-bars 7* or tab-suspending leads 3 *are cut away*, the cutting parts A of the tab-suspending leads 3 are cut off inside the distal end parts B of the outer leads 9, thereby preventing protrusion of the distal ends of the tab-suspending leads 3 past the distal end parts of the outer leads 9.

A112 (emphasis added). Shimizu ’752 illustrates the result of this tie-bar removal process in Figure 2b (a figure that PI ignores in its briefing):



A121, Fig. 2b of Shimizu '752; *see also* Ex. 05, June 27, 2019 Deposition of Peter M. Elenius at 179:14–19 (PI's expert testifying that Figure 2b “shows a package -- it looks like they removed the coupling portion”); Elenius Invalidity Opening Report at ¶ 85 (A431) (describing standard practice for removal of dam bars and tie bars). Dr. Kohl explained that a person of ordinary skill would understand Shimizu '752 to teach that the finished product does not include the alleged “coupling portion.” Ex. 03 at ¶¶ 7–11. PI's own expert testified that cutting away the tie bars was “standard” and that he was “confused” that Figure 2a of Shimizu '752 shows tie bars while the next figure, Figure 2b, does not. Ex. 05 at 180:10–24. There is thus at least a dispute of fact as to whether Shimizu '752 discloses the “coupling portion,” which is recited in all asserted claims.

Because PI has not carried its burden to show by clear and convincing evidence that every element of claims 1 and 9 are present in Shimizu '752, ON requests that the Court deny PI's motion for summary judgment that Shimizu '752 anticipates those claims.

**B. PI has not shown that the claimed invention would have been obvious to one of ordinary skill in the art**

**1. Response to PI's Statement of Facts**

ON disputes at least the following allegedly undisputed statements of fact in PI's motion. Additional facts and factual disputes are identified in the argument that follows.

2. As discussed below, the prior art does not disclose or suggest coupling common leads

as claimed in the '211 patent.

3., 4., and 7. ON disagrees for the reasons explained in detail in this opposition.

6. ON disagrees that any of the references cited by PI in this statement disclose a “coupling portion” as that term is used in the '211 patent.

8. The invention of the '211 patent is defined by the claims and cannot be reduced to merely one element recited in the claims.

11. ON notes that the colored annotations to the figures do not appear in the '211 patent.

12. As discussed below, Hoshino does not teach gull-wing shaped leads, and thus does not disclose use of the bonding part on the vertical portion of a gull-wing shaped lead.

13. and 14. PI's paraphrasing of ON's expert is inaccurate in several respects. The statements in his report speak for themselves.

## **2. Argument**

PI's motion for summary judgment of obviousness should be denied because PI relies on a new combination of references that was not disclosed in its Invalidity Contentions and, further, PI fails to show that the claimed invention, as a whole, would have been obvious.

### **(i) PI improperly relies on a new combination of references that was not disclosed in its Invalidity Contentions**

PI should not be allowed to pursue the obviousness argument in its motion because PI failed to include this argument in its Final Invalidity Contentions. Although PI's motion is somewhat unclear, PI appears to argue that the claims would have been obvious because Hoshino allegedly teaches what PI believes to be the lone element missing from the admitted prior art.<sup>2</sup> PI Br. at 12 (“The '211 patent does no more than unite the old, existing heat management techniques

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<sup>2</sup> Hoshino is in fact the only prior art reference identified by name in the “Argument” section of PI's Brief regarding obviousness. PI Br. at 11–16.

taught in Hoshino with the conventional, prior art semiconductor package described in the '211 patent.”). But PI did not disclose a combination of the admitted prior art and Hoshino in its Final Invalidity Contentions (or its supplement served one month later), and PI’s reliance on this new combination for the first time in a summary judgment motion is improper.

PI’s Final Invalidity Contentions list sixteen prior art grounds allegedly invalidating Claim 1 of the '211 patent. Ex. 06, PI Final Invalidity Contentions at 15–18. None of those grounds combine Hoshino with the admitted prior art. *Id.* The charts accompanying the Final Invalidity Contentions assert that claim 1 is obvious in view of only one combination that includes Hoshino—specifically, that Hoshino could be combined with the Hoshi reference (**not** the “admitted prior art”) to render Claim 1 obvious. Ex. 07, PI Final Invalidity Contentions, D.13. The Invalidity Contentions also list Hoshino as one of the “gull-wing references” that are part of seven combinations that PI contended render dependent Claims 4 and 10 obvious. But again, none of those combinations include the admitted prior art.<sup>3</sup> Indeed, neither PI’s Final Invalidity Contentions nor its later supplement identify **any** combination of the admitted prior art with **any** of the references PI mentions on pages 8-10 of its motion. *See* Ex. 26, PI’s Supplemental Final Invalidity Contentions. PI described its obviousness combinations in “and/or” terms and, accounting for all possible permutations, the Final Invalidity Contentions disclosed thousands of asserted combinations. *See* Ex. 06 at 16–17. The **one** combination that is now the entire basis of PI’s motion for summary judgment, however, was not among them.

ON is prejudiced by PI’s reliance on this new combination. ON focused its validity rebuttal

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<sup>3</sup> PI’s Final Invalidity Contentions list combinations of the gull-wing references with the following references: SMP211 (chart D.5), Allegro AI (D.10), Gagnon (D.11), Shmizu '752 (D.12), Hoshi '091 (D.13), Kikushima '492 (D.14), and Ichikawa '818 (D.16). Although listed as one of the “gull-wing references,” Hoshino is not specifically cited in charts for D.12 and D.14.

on the combinations actually identified in PI's Final Invalidity Contentions, which did not include a combination of admitted prior art and Hoshino. PI pulled a bait-and-switch at summary judgment, advancing a new combination and criticizing ON for allegedly failing to address this previously undisclosed theory. *See e.g.*, PI Br. at 13 ("ON's expert, moreover, fails to explain any alleged differences between the Hoshino 'connecting' or 'bonding' part and the '211 patent's 'coupling portion.'"). PI did not disclose a combination of admitted prior art and Hoshino in its Final Invalidity Contentions, and PI should not be allowed to rely on that combination now. That alone is reason to deny PI's motion for summary judgment that the '211 patent is obvious.

ON anticipates that PI will argue that Dr. Elenius disclosed the combination of "admitted prior art" and Hoshino in his report on invalidity. In that report, Dr. Elenius never stated in explicit terms that the admitted prior art could be combined specifically with Hoshino. Instead, he merely mentioned a combination of "admitted prior art and the knowledge of a POSITA or one or more of the coupling portion references," which, in a footnote to his description of a different combination, he defined to include Hoshino and several other references. A445–46. Moreover, Dr. Elenius provided thirteen claim charts explaining his theories that various references and combinations invalidate the '211 patent, but he *did not* provide a claim chart for a combination of the admitted prior art and *any* reference (e.g., Hoshino). A446 (listing "N/A" as the chart number). And Dr. Elenius dedicated only a *single sentence* in his 157-page report to the teachings of Hoshino in relation to the new combination set out in PI's summary judgment motion. A469 at ¶ 560. To say that PI "buried the lede" on this improper new theory would be an understatement. In any event, PI's late disclosure would not cure its failure to disclose this theory in its contentions.

**(ii) PI failed to show that the claimed invention, as a whole, is obvious in view of its improper new combination**

Even if the Court allows PI to pursue its previously undisclosed obviousness combination,

PI's arguments fail on the merits. ON's expert opined that a person of ordinary skill would not arrive at the invention recited in the asserted claims merely from combining the known art with Hoshino (or any of the other art PI discusses briefly in its motion). Ex. 03 at ¶¶ 12–15. As ON's expert explains, the '211 patent strikes a careful balance between competing considerations such as heat transfer, encapsulation, and structural integrity. *Id.* at ¶ 12. The '211 patent achieves this balance by combining the recited elements in a way that sacrifices some heat transfer efficiency but gets the balance of the three considerations just right. ON's expert has explained that such a “Goldilocks” combination would not have been obvious to a person of ordinary skill in the art and that Hoshino does not discuss any of the various trade-offs that motivated the solution claimed in the '211 patent. *Id.* at ¶¶ 12–13. According to Dr. Kohl, PI's argument that the combination would have been obvious is the result of improper hindsight bias. *Id.* at ¶ 12. Moreover, as Dr. Kohl points out, Hoshino teaches at most that it was possible to couple together *some* leads of a semiconductor package to improve heat dissipation but provides no teaching relevant to the claim elements requiring that the coupled leads be “common leads” that are “coupled to the island.” *Id.* at ¶ 13. At the very least, Dr. Kohl's testimony raises disputes of fact that must be resolved by the jury.

Moreover, PI's obviousness argument is legally insufficient. PI argues that the '211 patent admitted all but one claim element was present in the prior art and suggests that Hoshino supplies that missing element. But PI focuses on only that one element and never discusses the other elements of the claims nor shows that a person of skill would have combined Hoshino or any other reference with those elements. That kind of piecemeal obviousness analysis is legally insufficient. Obviousness can be determined only “with respect to the subject matter as a whole, not separate pieces of the claim.” *Sanofi-Synthelabo v. Apotex, Inc.*, 550 F.3d 1075, 1085 (Fed. Cir. 2008); 35 U.S.C. § 103 (“A patent for a claimed invention may not be obtained . . . if the differences between



the claimed invention and the prior art are such that the claimed invention *as a whole* would have been obvious . . .”). It is improper to focus merely on one alleged point of novelty or to reduce the claims to a single alleged “heart” of the invention. *See, e.g., Para-Ordnance Mfg., Inc. v. SGS Importers Int’l, Inc.*, 73 F.3d 1085, 1087 (Fed. Cir. 1995) (“[W]hen determining obviousness, the claimed invention should be considered as a whole; there is no legally recognizable ‘heart’ of the invention.”). But that is precisely what PI does in its motion, reducing the claimed invention to what PI alleges is the lone point of novelty—the “coupling portion” limitation of claim 1—and ignoring the claimed combination of elements. *See* PI Br. at 9 (“The ’211 patent’s only alleged innovation was a ‘coupling portion’...” ) and 13 (arguing that “Hoshino’s teachings about improving heat dissipation by adding additional metal to adjacent leads should be the focus of the analysis”). PI does not even mention the other limitations of the claims, much less show that the claimed *combination* of those elements would have been obvious at the time of the ’211 patent. PI’s description of Hoshino’s alleged “obvious solution” to a “known problem” (*see* PI Br. at 13)—“joining adjacent leads”—is generic and, because it does not address the numerous requirements the asserted claims place on the “common leads” and “coupling portion” elements, cannot establish that the claimed invention *as a whole* was obvious. *Ortho-McNeil Pharm., Inc. v. Mylan Labs., Inc.*, 520 F.3d 1358, 1364 (Fed. Cir. 2008) (“the language of Title 35 [] requires the analysis to examine ‘the subject matter as a whole’”). PI’s motion should be denied for this further reason.

Indeed, PI’s motion is virtually silent on the key limitation found missing in PI’s failed IPR—“wherein the common leads projecting out from the resin-sealing body are provided with a coupling portion.” Ex. 04 at 7:18–19. The Court has determined that this limitation requires that the common leads begin within the resin-sealing body and extend outside of that body. D.I. 110 at 12–13. ON’s expert opined that Hoshino does not disclose whether the leads that have the alleged

coupling portion are separate leads before they project out from the resin-sealing body, as opposed to just separating into different leads outside the body, and thus there is at least a dispute as to whether Hoshino discloses the claimed coupling portion. Ex. 03 at ¶ 13; A525 at ¶ 113 (“Hoshino does not disclose how the semiconductor device is mounted or connected to the leads.”); Hoshino Figures (A124). That is no trivial distinction. Indeed, it is the exact reason the Patent Office rejected PI’s IPR petition on a separate prior art reference PI raised in the IPR. Ex. 02 at 18 (“Shimizu ’653 does not use common leads”). There is nothing apparent in the figures from Hoshino that would distinguish them from Figure 6 in Shimizu ’653 with respect to this missing element. PI’s failure to show the lack of a dispute of material fact about the scope and content of the Hoshino prior art is yet another reason to deny its motion for summary judgment.

Additionally, PI has also not shown that dependent claims 4, 9, and 10, which further require that the common leads “are each formed into a gull-wing shape,” would have been obvious. Hoshino discloses a semiconductor package that employs pin-in-hole leads, which are much more efficient than gull-wing leads at transferring heat. Ex. 03 at ¶ 14. As PI’s own expert described, there are different “design rules” for through-pin leadframe designs compared with gull-wing designs. Ex. 05 at 86:2–87:16. Dr. Kohl has opined that a person of ordinary skill in the art seeking to improve heat dissipation (*see* PI Br. at 11) would not have found it obvious to diminish the heat dissipation capabilities of Hoshino by combining its teachings with less efficient gull-wing leads. Ex. 03 at ¶ 14. That is especially true considering the sheer number of alternative lead shape options available at the time—a reference cited by PI’s own expert lists no fewer than 18 potential lead shapes. *Id.* These additional disputes of fact regarding the obviousness of using the “gull-wing” leads in combination with the other elements are further reason to deny summary judgment of obviousness as to dependent claims 4, 9, and 10.

## **II. PI has not shown that the '211 patent is not infringed**

### **A. A genuine dispute exists over whether the eSOP products include the recited “discrete leads”**

Two categories of PI products, the eSOP lead-frame and inSOP lead-frame products, infringe the '211 patent. PI moves for summary judgment of non-infringement only as to the eSOP products and argues that the products lack only a single claim element—“discrete leads each having an end extending near the island.” PI’s argument, however, is based on a new claim construction that it did not propose during the *Markman* phase of this case and that contradicts the intrinsic record. But even under PI’s unsupported new construction, a dispute of fact exists as to whether the eSOP products include discrete leads. Summary judgment is therefore inappropriate.

#### **1. Response to PI’s Statement of Facts**

ON disputes at least the following allegedly undisputed statements of fact in PI’s motion. Additional facts and factual disputes are identified in the argument that follows.

2. ON disagrees that Figure 1 illustrates the only possible embodiment of these structures as recited in claim 1. Figure 1 shows “a plan view explaining a lead frame for use in a semiconductor device *according to a first embodiment* of the present invention,” including the structures highlighted. Ex. 04 at 2:32–34.

5. ON’s expert explained, in his Opening Report, why he believes the leads satisfy the limitation “discrete leads each having an end extending near the island” according to the ordinary meaning of that limitation. *See, e.g.*, Kohl Infringement Opening Report at ¶ 81 (A266–67).

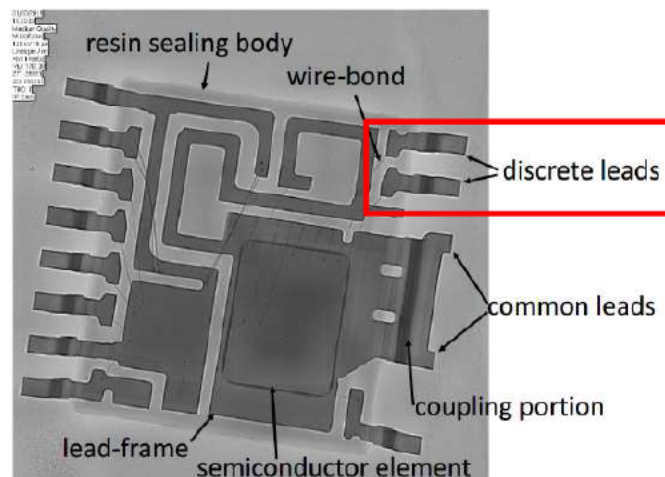
6. ON notes that, in Paragraph 15 of his report, Dr. Kohl used slightly different language than indicated in PI’s quoted excerpt.

8. ON disagrees with PI's attempt (in footnote 9) to rewrite the meaning of "extending near the island" to require that the ends of the discrete leads "reach toward the island and end near it," which is not the ordinary meaning of the claim phrase.

9. PI mischaracterizes the opinion of ON's expert. ON's expert used the phrase "extend *out from*." That is a different phrase than appears in the claim language (i.e., "extending *near*"). In the quoted portion of ON's expert opinion, it is the prepositional phrase "out from"—not the term "extend" itself—that implies a specific directionality.

## 2. Argument

Dr. Kohl identified discrete leads in the accused PI eSOP products, including the leads identified in the following figure from his expert report:



A264 at ¶ 77 (red box added for emphasis). Dr. Kohl further explained that those discrete leads extend near the island, as that term would be understood by a person of ordinary skill in the art. Ex. 3 at ¶ 19; Kohl Infringement Reply Report (A377–78) at ¶¶ 14–16; *see also* A266–67 at ¶ 81 (“A comparison of Figures 5 and 8 shows that the leads at locations 1, 7, 8, 10, 11, 12, 13, 14, and 16 extend near an island...”). For example, Dr. Kohl explained that the leads are only 1.2 mm from the edge of the island, which is “smaller than the typical distance between typed consecutive words on a page, smaller than an ant, less than the thickness of a nickel.” A378 at ¶ 16. He further opined

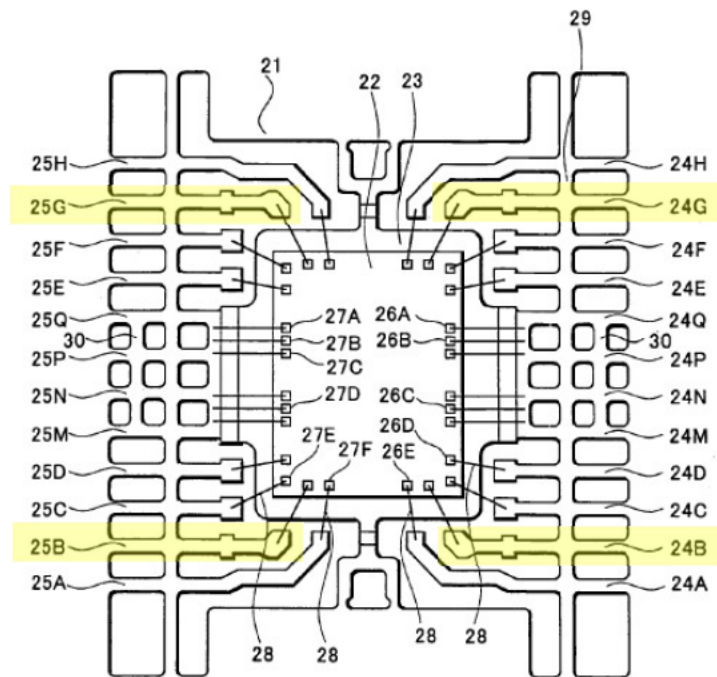
that the leads “are close enough to be wire bonded to the semiconductor element” and thus “‘close enough’ to be useful for [their purpose of] carrying electrical signals.” *Id.* at ¶ 15. PI disputes Dr. Kohl’s opinion but fails to show there is no genuine dispute of material fact as to this limitation.

PI’s motion is entirely based on a new and incorrect claim construction. PI argues that the discrete leads identified by Dr. Kohl do not “extend[] near the island” because they “simply extend inward—none reach toward the island and end near it.” *Id.* PI thus proposes its own narrow construction of “extending near the island” and argues that the discrete leads identified by Dr. Kohl do not satisfy that narrow construction. But PI never argued for that construction during the *Markman* phase of the case (*see* D.I. 78-1) and the Court has not adopted it.

Moreover, PI’s new construction is inconsistent with the ordinary meaning of the claim language. There is no dispute that “extending” in the context of the ’211 patent means, essentially, “stretching out in distance.” *See, e.g.*, PI Br. at 17. The flaw in PI’s construction is its attempt to rewrite the other claim term—“near”—to require extension in a particular **direction** (i.e., toward the island). “Near” is a measure of **proximity**, not directionality. Both parties’ experts agree that the purpose of “extending near the island” is to reduce the length of wire bonds in the device. *Compare* PI Br. at 18 (ON’s expert testified that a person of ordinary skill would understand “discrete leads each having an end extending near the island” to require that the lead “ends close enough to be attached to the semiconductor with a wire.”) and Ex. 05 at 148:5–10 (“[A] person of ordinary skill in the art that knows that these discrete leads extend to near the island to minimize the length of the wire bonds.”). PI’s attempt to rewrite the claims to have a meaning divorced from this agreed-upon purpose is improper.

PI’s construction also finds no support in the intrinsic record. PI cites several other instances of the term “extend” from the ’211 patent specification, but these merely emphasize the

flaw in PI's construction. Each of PI's examples modify "extend" not with the term "near" but with a different preposition that indicates directionality: "extend *to* the outside;" "extend *from*;" and "extend *out from*." See PI Br. at 17 (collecting quotes from the '211 Patent). PI's examples thus show that the patentee was capable of describing extension in a particular direction when it wanted to do so. The inventor chose the directionless term "near" for the claims, however, and absent evidence that the inventor redefined that term to require direction (evidence that is completely lacking here), that choice of terminology should be respected. Moreover, that Figure 1 of the '211 patent shows *some* discrete leads pointing toward the island (see PI Br. at 18) does not change the meaning of "near" as used in the claims. Indeed, Figure 1 of the '211 patent actually contradicts PI's attempt to read the eSOP leads out of the claim. At least four discrete leads in Figure 1 (24B, 24G, 25B, and 25G) are positioned just like the discrete leads in the eSOP products.



Ex. 04 at Fig. 1 (highlighting added); see also *id.* at 3:9–10 (listing the "discrete leads" in Figure 1). PI's construction cannot exclude the eSOP discrete leads from the claims without also improperly excluding discrete leads 24B, 24G, 25B, and 25G that are disclosed as part of the

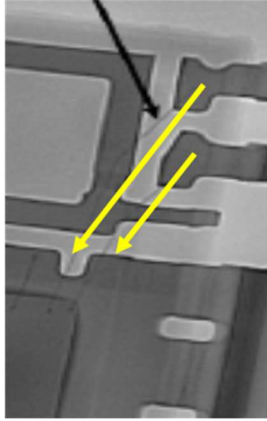
primary embodiment of the '211 patent. That further shows that PI's narrow construction is incorrect. *See Vitronics Corp. v. Conceptronic, Inc.*, 90 F.3d 1576, 1583 (Fed. Cir. 1996) (claim interpretation that excludes the preferred embodiment is "rarely, if ever, correct.").

Moreover, the non-infringement theory in PI's Summary Judgment Motion is *different* from the argument PI's expert articulated in his report. PI's expert did *not* argue that the eSOP discrete leads identified by Dr. Kohl failed to "extend" towards the island. Mr. Elenius instead argued that the leads "don't meet the requirements [of the claims] because they have an intervening structure between the island and the discrete leads." *See* Elenius Non-Infringement Rebuttal Report at ¶ 41 (A316). The existence of intervening structure is nowhere in PI's motion for summary judgment, which means that PI is moving for summary judgment of no infringement *based on attorney argument alone* and on an untimely argument presented for the first time here.<sup>4</sup> The Court should therefore reject PI's implicit (and untimely) request for a narrow claim construction, and further find that there exist disputes of material fact as to whether the discrete leads of the eSOP products "extend[] near the island" under the plain and ordinary meaning of that term.

But even if the Court were to adopt PI's improper narrow construction (it should not), there would still be a fact dispute as to whether the discrete leads in the eSOP products "extend[] near the island." In response to PI's newly proposed construction, Dr. Kohl has explained that each discrete lead includes a portion at its end that stretches out in the direction of the island. Ex. 03 at ¶ 20. This is shown in the figure below:

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<sup>4</sup> PI also did not propose its "intervening structure" construction during the *Markman* phase of this case, and, although Mr Elenius raised this construction in his non-infringement report, he did not apply the same construction in his invalidity report. Ex. 05 at 148:15–22 ("Q: And for any of the prior art references, did you analyze whether there were intervening structures between the discrete leads and the semiconductor island? A: It's -- as far as I recall, I don't -- I did not see intervening structures, and at least some of the leads met that requirement.") and 146:3–148:14 (Mr. Elenius admitting his analysis of the Otaka reference did not discuss intervening structures).



*Id.* As Dr. Kohl explains, the discrete leads of the eSOP products therefore satisfy the requirement that the “discrete leads each hav[e] an end extending near the island” even under PI’s new narrow construction of that phrase. Thus, whether the Court rejects PI’s improper new construction or adopts it, fact disputes exist and summary judgment of non-infringement is inappropriate.

**B. ON should be allowed to respond to a new construction with a doctrine of equivalents theory**

PI also moves for summary judgment that its products do not infringe the ’211 patent under the doctrine of equivalents. Unless new constructions are adopted by the Court at this time, ON does not intend to present a doctrine of equivalents theory on this patent at trial. Should the Court adopt one or more of PI’s newly proposed constructions of “extending near the island,” however, ON would request permission for Dr. Kohl to serve a supplemental report on infringement to address the application of the doctrine of equivalents under such a new construction. Dr. Kohl has outlined his opinions that the discrete leads of the inSOP and eSOP products satisfy that limitation even under PI’s narrow view under the doctrine of equivalents. Ex. 03 at ¶¶ 21–22.

**III. ON is not precluded from offering any defenses**

PI’s motion for summary judgment on issues of privity and issue preclusion should be denied. ON has never had an opportunity to present its defenses to the PI products because ON



acquired Fairchild *after* validity and infringement of the asserted patents had been litigated by Fairchild. Thus, ON and Fairchild are not in privity for these previous litigated questions.

**A. ON is not in privity with Fairchild for issue preclusion in this lawsuit**

Two central facts govern the resolution of PI's motion on preclusion. First, every accused product in this case is a legacy-ON product developed by ON *before* its acquisition of Fairchild. No accused product in this case was previously manufactured or developed by Fairchild, and no accused product in this lawsuit has ever been the subject of any previous lawsuit involving PI and Fairchild. Second, ON did not participate in any prior infringement or validity trials involving the '851 patent. Those trials took place in 2006, 2007, and 2012, long before ON and Fairchild entered into an agreement in late 2015 for ON to acquire Fairchild. PI does not and cannot allege that ON was a party to any previous trial concerning infringement or validity of the '851 patent. PI's motion thus rests on alleged *privity* between ON and Fairchild. But to bar a non-infringement or invalidity challenge, privity would have to have existed as of the trial dates in 2006, 2007, or 2012. It is not enough to show merely that a privity relationship developed after those trials concluded. Because ON was not involved in and did not control the earlier trials, privity would *only* apply to products transferred from Fairchild to ON—*not* ON's legacy products accused in this case.

PI's argument that ON is collaterally estopped is extreme, unprecedented, and would violate the "deep-rooted historic tradition that everyone should have his own day in court." *Taylor v. Sturgell*, 553 U.S. 880, 892–93 (2008) (*quoting Richards v. Jefferson County*, 517 U.S. 793, 797 (1996)). The scope of issue preclusion is at all times bounded by due process, *Taylor*, 553 U.S. at 891, but PI's suggested approach would deprive ON of due process in this lawsuit. No court has ever found privity in the factual circumstances presented in this case, but *two courts* have held that a party in ON's position is not precluded. Indeed, as described below, a court in a parallel case recently rejected PI's attempt to preclude ON based on alleged privity with Fairchild.

## 1. 2016 California Case Summary Judgment Order

PI presented the same legal and factual issues in a motion for summary judgment in the parallel lawsuit between the parties before Hon. Beth Labson Freeman in the Northern District of California (“the 2016 California Case”) with respect to the ’876 and ’079 patents. Two weeks ago, Judge Freeman denied PI’s summary judgment motion and conclusively resolved that ON and Fairchild are not in privity with regard to the legacy-ON products accused in that lawsuit (many of which overlap with products accused by PI in this lawsuit). *See Power Integrations, Inc. v. ON Semiconductor Corp.*, Case No. 16-cv-06371-BLF, D.I. 285, p. 23–34 (N.D. Cal. Aug. 7, 2019) (attached as Ex. 24) (hereinafter “2016 California Case Summary Judgment Order”). Because this lawsuit involves only legacy-ON products, ON and Fairchild are not in privity for this lawsuit and ON is not precluded with respect to ON’s noninfringement or invalidity defenses.

In a comprehensive, exhaustively researched, and well-reasoned eleven-page ruling, Judge Freeman addressed the same pre-merger facts on which PI relies in this Court (*id.* at 23–24) and analyzed the law governing privity for a party who acquired a company involved in a previous lawsuit, including the *AstraZeneca*, *Bingo Card Minder*, *Brunswick*, *Kloster*, and *Power Integrations* cases that PI cites in its present motion (*id.* at 25–31). Judge Freeman found that “under this case law, ON is not in privity with Fairchild because this action does not involve products that ON acquired from Fairchild” (*id.* at 33) and denied PI’s motion for summary judgment of issue preclusion. *Id.* at 35; *see also id.* at 33 (“ON is not in privity with respect to products that it did not acquire from Fairchild.”) and *id.* at 32 (“The Court agrees with ON . . . [that] privity follows the product at issue in the original action.”). Here, as in the 2016 California Case, the products at issue are legacy-ON products that were not part of any previous action. Thus, for the same reasons explained by Judge Freeman, privity is not present and issue preclusion cannot apply to ON’s noninfringement and invalidity defenses in this case.

Judge Freeman also held that ON did not and could not control Fairchild in previous litigation for the sake of establishing privity under a “control” theory. *Id.* at 34–35. Judge Freeman ruled that, consistent with the Supreme Court’s holding in *Taylor v. Sturgell*, 553 U.S. 880 (2008) and the Restatement (Second) of Judgments, ON’s *post-trial* ownership of Fairchild did not allow ON “the opportunity to present proofs and argument” necessary to establish privity through control over a previous trial. *Id.* As was the case in the 2016 California Case, the trials concerning the ’851 patent occurred in 2006, 2007, and 2012, well before ON agreed to acquire Fairchild in November 2015 (and well before the confidentiality agreement between ON and Fairchild in September 2015). Thus, ON did not control the trial of those proceedings such that ON could control the presentation of “proofs and argument” concerning noninfringement or invalidity, negating privity under a “control” theory as well.

## **2. *Crossroads Sys. (Texas), Inc. v. Dot Hill Sys. Corp.***

The district court in *Crossroads* held that an acquiring company was not precluded from challenging validity or infringement, even though the acquired company had previously failed to prove the invalidity of the asserted patent. *Crossroads Sys. (Texas), Inc. v. Dot Hill Sys. Corp.*, No. A-03-CA-754-SS, 2006 WL 1544621 (W.D. Tex. May 31, 2006) (attached as Ex. 25). *Crossroads* reached the same result as Judge Freeman, and Judge Freeman cited *Crossroads* with approval in her decision. “This result mirrors the result in *Crossroads*, which this Court finds to be well-reasoned.” *2016 California Case Summary Judgment Order* at 33.

The operative facts in *Crossroads* track the operative facts here. Crossroads sued Chaparral Network Storage, Inc. (“Chaparral”) for infringement of U.S. Patent No. 5,941,972 (“the ’972 patent”). *Id.* at \*4. After the conclusion of the Chaparral lawsuit, in which the ’972 patent was found valid, Crossroads sued Dot Hill on the same patent. *Id.* Five months later, Dot Hill acquired Chaparral. *Id.* Crossroads later moved for summary judgment that Dot Hill was precluded from

challenging validity “because Dot Hill acquired Chaparral, which was a party to the earlier litigation in which Crossroads prevailed on the question of the ’972 patent’s validity.” *Id.*

After first noting that the holding in *Brunswick* (PI’s leading case) “seems eminently fair and sets a good policy,” the *Crossroads* court ruled that “the facts of *Brunswick* are not on all fours with this case.” *Id.* at \*6. In *Brunswick* (and other cases cited by PI), the accused products were the products of the acquired company. In *Brunswick*, for example, the accused product was a business that the defendant (Chrysler) acquired from a previous owner that was the subject of a validity and infringement finding. Here, legacy-ON products have never been adjudicated, and the *Crossroads* court, like Judge Freeman, found that distinction determinative:

Unlike the two suits at issue in *Brunswick*, the accused products here are not the same as the accused products in [the first lawsuit against] *Chaparral*. Indeed, if they were the same, Crossroads would assuredly be arguing that Dot Hill is estopped from contesting not only the issue of patent validity but also the issue of infringement.

The fact that different products are involved in the two cases at issue is not without significance. Although a transfer of property may give rise to privity, it is only a limited kind of privity for collateral estoppel purposes. “[W]hen one party is a successor in interest to another with respect to particular property, the parties are in privity only with respect to an adjudication of rights *in the property that was transferred*; they are not in privity for other purposes, such as an adjudication of rights in other property that was never transferred between the two.” *Int’l Nutrition Co. v. Horphag Research, Ltd.*, 220 F.3d 1325, 1329 (Fed. Cir. 2000) (emphasis added).

As is made clear by Crossroads’s proposed verdict form, each one of Crossroads’s allegations of infringement of the ’972 patent is based on the original Dot Hill products that were identified in the original complaint - before Dot Hill even acquired Chaparral; none of the ’972 patent infringement allegations are based on Chaparral legacy products. Because Dot Hill is not in privity with Chaparral with respect to its original products, collateral estoppel should not apply to Dot Hill’s validity defenses to the ’972 patent.

*Id.* at \*6–7 (emphasis in original). Issue preclusion did not apply in *Crossroads* because Dot Hill

was sued on its own products. Here, issue preclusion cannot apply because ON is being sued on ON's own products. *See also Int'l Nutrition*, 220 F.3d at 1325; *Epistar Corp. v. Int'l Trade Comm'n*, 566 F.3d 1321, 1333–34 (Fed. Cir. 2009).

All of PI's other cited cases are distinguishable. Like *Brunswick, Kloster* involved infringement accusations directed to acquired products that were adjudicated in the previous lawsuit; new products of the acquiring company were not implicated. *See Kloster Speedsteel AB v. Crucible Inc.*, 793 F.2d 1565, 1581–83 (Fed. Cir. 1983). In *Astrazeneca*, Watson purchased Cobalt and controlled the earlier litigation, including the validity trial. *Astrazeneca UK Ltd. v. Watson Labs., Inc.*, 905 F.Supp.2d 596, 598 (D. Del. 2012). Here, there is no dispute that ON did not control the trials in 2006, 2007, and 2012. Any argument from PI that ON was later involved in the Fairchild cases in some capacity *after the trials* is not determinative. The Supreme Court held in *Taylor*, the application of privity involving control of the earlier litigation requires that the party to be bound have the “opportunity to present proofs and argument.” *Taylor*, 553 U.S. at 895 (*quoting* 1 Restatement (Second) of Judgments 39). Because ON was not involved in the earlier trials, ON had no ability to present proofs and arguments, and therefore privity cannot exist. None of PI's cited cases tracks the facts of this case, the *2016 California Case Summary Judgment Order*, or *Crossroads*.

**B. The infringement issue is not the same**

Issue preclusion only applies if the issue sought to be precluded is the same issue decided in the previous action. PI seeks to preclude ON from arguing that the accused legacy-ON products do not infringe. But whether the legacy-ON products infringe was not decided in PI's previous suits against Fairchild, because PI did not accuse any ON products of infringing in those cases. *See* PI's Motion, D.I. 245 at 28 (implicitly recognizing that the products are not the same). Tellingly, PI asserts a different claim in this lawsuit than it asserted against Fairchild, further

demonstrating that the issue in this case (whether legacy-ON products infringe claim 20) is different than the issue addressed in PI's prior cases against Fairchild (whether Fairchild's products infringe claim 18). That the two lawsuits involved two different claim sets asserted against two different products with different designs originating from different companies is, by itself, sufficient to defeat the "same issue" requirement.

In addition, ON's non-infringement defense on claim 20 (and dependent claim 16) is not the same as any issue previously litigated by PI and Fairchild with respect to claim 18. Here, ON argues that PI and Dr. Kelly have not shown the presence of both the "oscillation signal" and the separately recited "maximum duty cycle signal" of claim 20, because PI identifies a single signal in the accused ON products as both of those two different claimed signals.<sup>5</sup> In the Fairchild lawsuit, by contrast, PI identified one signal in the Fairchild products, COSC, as the claimed "oscillation signal" and a *different* signal, PULSE, as the claimed "maximum duty cycle signal." *See, e.g.*, Ex. 21, Blauschild Infringement Opening Report at 44; Ex. 22, Kelley Infringement and Validity Opening Report at ¶¶ 188–190 and 195–198. Fairchild never contended that PI mapped a single signal in Fairchild's products to both the claimed oscillation signal and the maximum duty cycle signal. Indeed, Fairchild's expert in that case, Dr. Wei, admitted that the alleged oscillator in Fairchild's products "provides *two signals* — COSC and PULSE." Ex. 08, Wei Non-Infringement Rebuttal Report at ¶ 64 (emphasis added). Fairchild argued only that the PULSE signal in its products was akin to a clock signal and, because a clock signal and a maximum duty cycle signal both appear in the specification of the '851 patent, that PULSE signal

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<sup>5</sup> As described in ON's Opening Brief in Support of Plaintiff's Motion for Summary Judgment (D.I. 239), the plain meaning of claim 20, the prosecution history of the '851 patent, and PI's statements during prior litigation require that the "oscillation signal" and the separately recited "maximum duty cycle signal" are two *separate* signals. D.I. 239 at 8–11.

was not *itself* a maximum duty cycle signal. The jury was therefore “asked to resolve a factual dispute: whether the PULSE signal in the accused products is a ‘maximum duty cycle signal comprising a first state and a second state.’” A1374. The finding that Fairchild’s PULSE signal was a maximum duty cycle signal in the previous lawsuit does not foreclose ON’s non-infringement position in this lawsuit. ON does not argue (as Fairchild did) that the identified maximum duty cycle signal is actually a clock signal, and Fairchild did not argue (as ON does) that PI mapped a single signal to both the “oscillation signal” limitation and the “maximum duty cycle signal” limitation.<sup>6</sup>

Moreover, ON and its expert have articulated an additional, different non-infringement argument with respect to the accused NCP1252 product. *See* Ex. 23, Zane Non-Infringement Report at ¶¶ 59–62. The presence of this additional non-infringement position further underscores that the requirements of issue preclusion are not satisfied in this case. Thus, even if ON and Fairchild were in privity for this lawsuit (they are not), ON is not precluded from raising its noninfringement defense in this lawsuit because the noninfringement issues are not the same in this case and the previous case.

#### **IV. PI’s motions for summary judgment on the SR patents should be denied**

##### **A. ON does not accuse products without an SR FET/switch**

PI asks the Court to enter an advisory judgment merely restating the purely legal premise that a product infringes only if all claim elements are present in that product. PI’s motion is purely hypothetical. ON has never suggested that “use of the accused chips without an SR switch or FET

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<sup>6</sup> PI’s argument that ON’s expert “agreed” that the same issues were involved in both cases (PI Br. at 28) misrepresents the testimony. PI’s attorney asked Dr. Zane merely about a high-level block diagram from a datasheet for one accused product in the Fairchild case, which was not the basis for PI’s infringement contentions in that case. Instead, PI’s infringement theory was based on detailed schematics for the Fairchild product, which showed separate COSC and PULSE signals. PI never asked Dr. Zane any questions concerning those schematics at his deposition.

(e.g., use with a rectifying diode)” would infringe its ’298, ’705, and ’407 patents (*see* PI Br. at 30) and PI has never identified an actual instance of a PI customer using an accused PI product without an SR FET. As discussed below, the evidence in this case establishes that PI’s customers directly infringe by combining the accused products with an SR FET and other components (or using such combined products) and that PI induces that infringement.

First, ON developed direct evidence that PI customers directly infringe by combining the accused products with an SR FET. Specifically, ON obtained various exemplary InnoSwitch-based products and reference design kits. *See, e.g.*, Ex. 10, Holberg Opening Report at ¶¶ 14–30. At trial, ON will show examples of actual power supplies that use an InnoSwitch with an SR FET or switch.

Second, [REDACTED]

[REDACTED]

[REDACTED] *See, e.g.*, Ex. 11, Zane Infringement Opening Report at ¶¶ 67–68, 73–77, 123, 169, 180–183, 235, 279; Ex. 12, Zane Infringement Reply Report at ¶¶ 19–25. For example, PI’s Vice President of Worldwide Sales, Ben Sutherland, testified [REDACTED] Ex. 09, April 3, 2019 Deposition of Ben Sutherland at 245:20–22. PI’s Vice President of Marketing, Doug Bailey, testified [REDACTED]

[REDACTED]

[REDACTED]

Ex. 29, April 11, 2019 Deposition of Doug Bailey at 80:22 – 82:4; 170:15 – 176:8. In its datasheets, PI warns customers that an SR FET is “often required” to comply with regulations governing energy efficiency. *See* Ex. 13, InnoSwitch-CP Datasheet at 11 (“Although a simple diode rectifier and filter is adequate for the secondary-winding, use of a SR MOSFET enables significant



improvement in operating efficiency often required to meet the European CoC and the U.S. DoE energy efficiency requirements”). Mr. Sutherland [REDACTED]

[REDACTED] Ex. 09 at 213:11–218:7. And PI’s marketing manager for InnoSwitch, Silvestro Fimiani, explained [REDACTED]

Third, neither party in this case has identified even a single instance in which a PI customer used one of the accused products without an SR FET. At nearly every deposition, PI witnesses

[REDACTED].<sup>7</sup>

Based on the extensive evidence that, consistent with PI’s intent and instructions, PI’s customers use the accused products with an SR FET (and the absence of evidence that any PI customer has ever used the accused products *without* an SR FET), a reasonable jury could conclude that those customers directly infringe the ’851 Patent and that PI induced that infringement. PI never identifies any specific products or customers that use the accused products in the hypothesized non-infringing manner (*see* PI Br. at 30–31) and its motion thus seeks an improper

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<sup>7</sup> Although PI’s expert Mr. McAlexander cites the depositions of Mr. Balakrishnan, Mr. Matthews, and Mr. Saint-Pierre [REDACTED]

advisory ruling. *See, e.g., Matthews Int'l Corp. v. Biosafe Eng'g, LLC*, 695 F.3d 1322, 1329 (Fed. Cir. 2012) (“A party may not obtain a declaratory judgment merely because it would like an advisory opinion on whether it would be liable for patent infringement if it were to initiate some merely contemplated activity.”). At the very least, there is a fact dispute as to whether *any* accused PI product has been used in a non-infringing manner and summary judgment would be improper.

**B. The accused products generate a control signal in response to a magnetized voltage**

There are two flaws in PI’s motion for summary judgment regarding “generating a control signal [] in response to the magnetized voltage[.]” First, PI wrongly assumes that the Court’s construction of “magnetized voltage” (i.e. “voltage at the output of the transformer (magnetic device) during the magnetization period”) requires that the *response* to that voltage also occur during the magnetization period. That is not required by the Court’s construction and is inconsistent with the claim language, which requires that the step of “generating” be “in response to” elements besides just the magnetized voltage (such as a demagnetized voltage and/or a magnetization period). Second, PI is also wrong factually that there is no dispute about how the accused products generate a signal in response to the magnetized voltage. ON’s expert has explained that [REDACTED]

[REDACTED] *See, e.g.,* Ex. 11 at ¶¶ 83–86; July 23, 2019 Deposition of Dr. Regan Zane (A1527) at 215:1–24. There is thus at least a dispute of fact on this issue, and summary judgment is inappropriate.

**1. The claims do not require “generating” during the magnetization period**

Nothing in the claims or the Court’s construction requires using the magnetized voltage to generate a control signal during the magnetization period. PI conflates two distinct claim elements, which the Court construed separately. Although the Court’s construction of “magnetized voltage”

recognizes that the magnetized voltage itself has a temporal bound, it does not require that the step of “generating a control signal” must occur during the magnetization period. The Court separately construed the phrase “generat(e/ing) a [x] signal . . . in response to [y]” as “generat(e/ing) a [x] signal based, at least in part, on [y].”<sup>8</sup> D.I. 110 at 7. Nothing in that construction requires the “generating” step to occur at the same time the magnetized voltage is present.

The claim language as a whole proves that the “generating a control signal” step must *not* be limited to the magnetization period, as PI would require. In each claim, the control signal is generated not only in response to the “magnetized voltage” but also in response to the “demagnetized voltage” and/or “magnetization period.” *See* ’298 patent, claims 1 and 8; ’705 patent, claim 1. Claim 1 of the ’298 patent and claim 1 of the ’705 patent are particularly telling, because both require that the control signal is generated at least in response to *both* the magnetized voltage and the demagnetized voltage. The Court construed “demagnetized voltage” as a voltage that occurs at a different time than the magnetization period—specifically, it is the “voltage at the output of the transformer during the *demagnetization* period.” D.I. 110 at 5–6. Because the claims recite generating a control signal in response to *both* the magnetized voltage and the demagnetized voltage, which exist at different times, they cannot require that “generating” occurs during a time that both of the recited voltages are present. That would be impossible.

The only logical reading of the claims requires that the “generating” step can occur at any time after the required voltages (or period) are received. That is consistent with the Court’s

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<sup>8</sup> The Court’s construction uses “[y]” as a shorthand to refer to slightly different language across the claims. For claim 1 of the ’298 patent “[y]” is “a magnetized voltage of the transformer, a demagnetized voltage of the transformer, and a magnetization period of the transformer.” For claim 8 of the ’298 patent “[y]” is “a magnetized voltage of the magnetic device and a magnetization period of the magnetic device.” For claim 1 of the ’705 patent “[y]” is “a magnetized voltage of the magnetic device and a demagnetized voltage of the magnetic device.”

construction of “generating . . . in response to [y],” which requires only that the generating is “***based, at least in part***, on [y]” and does ***not*** require that act of generating happens simultaneous to the presence of [y], as PI’s motion wrongly implies. The control signal can be generated “based, at least in part, on” the magnetized voltage, even if the magnetized voltage is no longer present in the transformer by the time subsequent circuitry generates the control signal. PI’s motion should be denied at least because it relies on an incorrect claim construction.

**2. The accused products monitor the magnetized voltage to generate the control signal**

Setting aside PI’s improper attempt to reframe the Court’s construction of “magnetized voltage,” ON disputes PI’s factual claim that “ON’s only alleged use of the ‘magnetized voltage’ in the accused PI products occurs *after* the transformer is no longer being magnetized[.]” PI Br. at 32 (emphasis original). As Dr. Zane has explained, [REDACTED] and thus satisfy the claims even under PI’s improper narrow construction.

In fact, Dr. Zane addressed this exact issue during his deposition, [REDACTED]

[REDACTED]

[REDACTED]

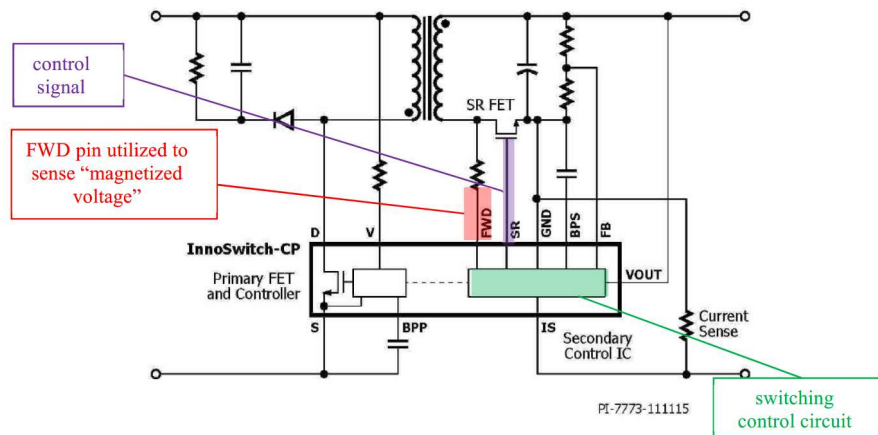
[REDACTED]

[REDACTED]

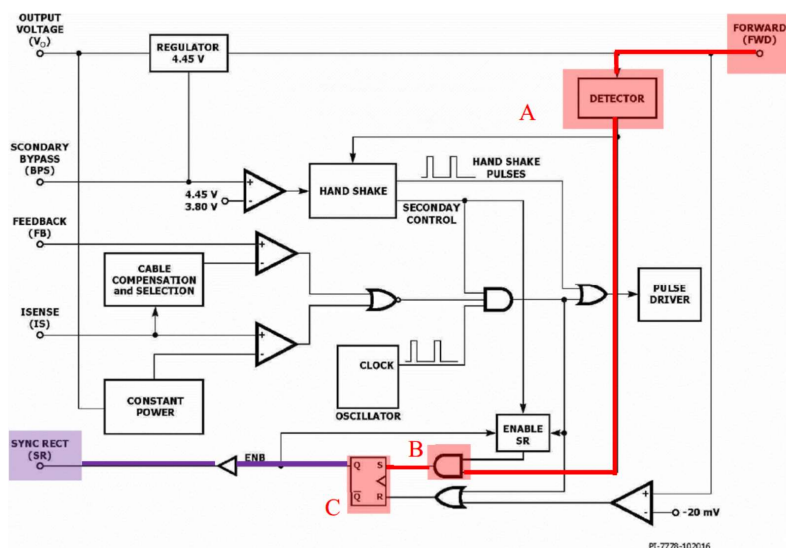
[REDACTED]

A1527 at 215:1–24 (emphasis added).

Dr. Zane's report also explains in detail how,



See Ex. 11 at ¶ 83; see also *id.* at ¶ 189 (parallel analysis for Accused InnoSwitch3 Products). Dr. Zane further explained that



*See id.* at ¶¶ 83–86; *see also, id.* at ¶¶ 189–92. Specifically, [REDACTED]

[REDACTED] *Id.* Thus, [REDACTED]

[REDACTED].<sup>9</sup> *Id.* Dr. Zane’s testimony thus establishes a factual dispute.

Significantly, PI’s expert Mr. McAlexander testified [REDACTED]

[REDACTED] Ex. 15, July 27, 2019 Deposition of Joseph McAlexander at 291:21–294:8; Ex. 14 at ¶ 84. Mr. McAlexander’s testimony confirms Dr. Zane’s understanding of the accused products [REDACTED]

[REDACTED] *See* A1527 at 215:1–24; *see also* Ex. 12 at ¶¶ 28–29. Thus PI’s own expert’s testimony supports ON’s understanding of the operation of PI’s infringing products.

Either of the two above flaws would be fatal to PI’s motion. As a matter of law, the claims do not require that the response to the magnetized voltage occur during the magnetization period. PI’s motion is therefore premised on an improperly narrow construction. And even if that narrow construction were correct (it is not), ON’s expert explained that the accused products monitor the magnetized voltage throughout the magnetization period. That is a fact dispute, and PI is therefore not entitled to summary judgment of non-infringement on the ’298 and ’705 patents.

**C. The accused products set or reset a latch in response to the polarity of the pulse signal**

The Court’s construction of “polarity” did not go as far as PI suggests, and certainly does not mandate summary judgment of non-infringement. ON’s expert has faithfully applied that

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<sup>9</sup> For clarity, Dr. Zane [REDACTED]  
[REDACTED]  
[REDACTED] *See* Ex. 11 at ¶¶ 88–101 and 194–213.

construction and explained that the accused products do meet this limitation both literally and under the doctrine of equivalents. Specifically, Dr. Zane explained [REDACTED]

[REDACTED]—just as described in the '407 patent. Ex. 11 at ¶¶ 154–159 and 264–269; Ex. 12 at ¶¶ 60–63. Whether ON's expert or PI's expert is more credible on this point is a question properly reserved for the jury.

PI now argues that only a single signal can constitute the “differential signal,” but the Court's construction contains no such restriction and PI's restrictive view contradicts the intrinsic record of the '407 patent. The signals that Dr. Zane identified as forming the “differential signal” are created by the accused products in *exactly the same way* that the pulse signal/differential signal is created in the '407 patent. The '407 patent describes the *combined signal* that is output from two separate logic gates—an AND gate and an OR gate, just like the accused products—as defining the polarity of the pulse signal (i.e.,  $S_P$  versus  $S_N$ ). This is shown in Figure 4 of the patent:

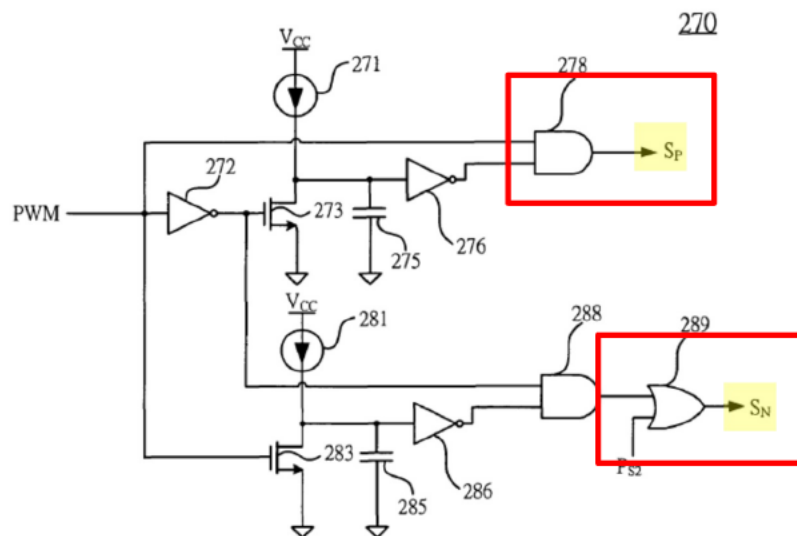


FIG. 4

Ex. 11 at ¶¶ 159–60 (annotations added). The description for Figure 4 of the patent states:

FIG. 4 shows the circuit of the pulse signal generator 270. ***The pulse signals  $S_P/S_N$  is the differential signal.*** A positive-polarity pulse signal  $S_P/S_N$  is generated in response to the rising edge of the PWM signal. A negative-polarity pulse signal  $S_P/S_N$  is generated in response to the falling edge of the PWM signal and the oscillation signal  $Ps_2$ [.] Therefore, the pulse signals  $S_P/S_N$  are one-shot signal.

'407 Patent (A1482) at 5:25–31 (emphasis added). The specification could not be clearer—two signals output from two different logic gates combine to create the differential signal. *See id.* (“The pulse signals  $S_P/S_N$  is the differential signal.”). PI’s new interpretation of “differential signal” would improperly exclude that disclosed embodiment.

PI’s interpretation also contradicts the language of the claims. PI essentially argues that the latch Dr. Zane identified in the accused products cannot possibly be controlled by a differential signal, because (according to PI) “each of two independent inputs to a latch either set or reset a latch.” PI Br. at 36. But such an interpretation contradicts claim 31, which requires “setting or resetting the latch circuit in response to the polarity of the pulse signal[.]” A1488 at 17:4–5. Because the Court has construed the pulse signal to be a differential signal, it must be possible to set and reset a latch in response to a differential signal. PI’s argument to the contrary ignores the claim language and should be rejected for that further reason.

PI also wrongly states that “Dr. Zane never shows that the two signals are ever added, subtracted, or combined in any way, and in particular by the latch” (PI Br. at 35), but that is not true. Dr. Zane specifically opined [REDACTED]

[REDACTED] *See* Ex. 11 at ¶¶ 156–57 and 267–68; Ex. 12 at ¶¶ 60–62. When the difference is positive, the latch sets, which turns the power switch on. When the difference is negative, the latch resets, which turns the power switch off. When the difference is zero, nothing happens. The signals that Dr. Zane identifies in the accused products thus meet the Court’s construction.



The logical subtraction performed by the latch is not Dr. Zane’s only explanation for how the accused products use “the polarity of the pulse signal.” *See* Ex. 11 at ¶¶ 158 and 268. The Court’s construction requires a “common reference,” but nothing requires that common reference to be ground voltage. And, there is in fact a different ordinary choice for this common reference: half of the circuit’s supply voltage. Ex. 12 at ¶ 61. This voltage threshold serves as the logic threshold for all logic gates in the circuit. *Id.* Using that choice, the logic signals received by the latch would always have a positive and negative polarities relative to the logic threshold. *Id.*

The claims and the Court’s construction thereof require the latch to interpret the polarity of the pulse signals, which is exactly what the accused latch does. Dr. Zane has not contradicted the Court’s claim construction, and PI’s summary motion requesting judgment on Dr. Zane’s application of the Court’s construction to the accused products should be denied.

**D. Dr. Zane’s doctrine of equivalence opinion does not result in claim vitiation**

For the same reasons that Dr. Zane’s infringement analysis does not contradict the Court’s construction (which does not preclude a differential signal constructed from two signals), his doctrine of equivalents analysis does not vitiate any element. PI Br. at 37. Dr. Zane faithfully compared the accused products to the claimed “polarity of the pulse signal” element, as described in the ’407 patent. *See* Ex. 11 at ¶¶ 159 and 269. Indeed, Dr. Zane opined that [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED] *Id.* Dr. Zane’s opinion would not eliminate the meaning of the Court’s “polarity of the pulse signal” construction. Dr. Zane merely explains that the combination of logic signals and circuits in the accused products achieves the same function

as claimed for “the polarity of the pulse signal,” in the same way, with the same result. *Id.* PI’s motion for summary judgment under the doctrine of equivalents should therefore also be denied.

**E. PI’s motion to limit ON to post-suit damages on the ’298 and ’705 patents is not ripe**

PI’s motion that ON is not entitled to pre-suit damages is premature. That motion is limited to only two of the asserted ON patents (the ’298 and ’705 patents) for which PI claims ON has not satisfied the notice and marking requirements of 35 U.S.C. § 287. ON does not sell products that practice the other two asserted patents (the ’407 and ’211 patents) and PI does not argue that § 287 precludes ON from collecting pre-suit damages on those patents.

That distinction is important, because the ’298, ’705, and ’407 patents (“the SR Patents”) all relate to synchronous rectification and ON asserts each of those patents against the same set of infringing PI products. Ex. 16, Expert Report of Stephen L. Becker at ¶¶ 31–37, 40, and Exhibit SLB-4. ON’s expert opined that [REDACTED]

[REDACTED] PI’s motion thus will not dispose of any asserted patents or accused products from the case and will only become relevant if PI is found to infringe claims of the ’298 patent, the ’705 patent, or both **but not** the ’407 patent. Because PI’s motion is contingent on a specific jury verdict that may not occur as PI anticipates, it is not ripe for adjudication and should be denied. *Texas v. United States*, 523 U.S. 296, 300, 118 S. Ct. 1257, 1259, 140 L. Ed. 2d 406 (1998) (“A claim is not ripe for adjudication if it rests upon contingent future events that may not occur as anticipated, or indeed may not occur at all.” (internal citations omitted)); *see also Gouin v. Nolan Assoc., LLC*, 308 F.Supp.3d 506, 508–09 (D. Mass. 2018) (denying summary judgment under the ripeness doctrine where, as here, the issue would arise only in the event of a specific jury verdict and

summary judgment “would not dispose of any substantive claims nor alter any necessary defenses”).

**V. PI’s motion on pre-knowledge infringement is based on a disputed fact, and should be denied**

**A. Response to PI’s Statement of Facts**

ON disputes at least the following allegedly undisputed statements of fact in PI’s motion. Additional facts and factual disputes are identified in the argument that follows.

1. ON disputes PI’s characterization of Dr. Becker’s purported assumption, particularly that ON is entitled to pre-suit indirect infringement damages “regardless of whether PI had awareness of the patents before ON filed suit,” for which PI provides no citation.

2. ON disputes PI’s claim that it first became aware of ON’s asserted patents on December 27, 2016. As explained below, that date is contradicted by PI’s 30(b)(6) testimony.

3. ON disputes PI’s characterization of the relative share of accused products that are sold into the United States, which is contradicted by the testimony of PI’s CEO. Ex. 17, January 16, 2019 Deposition of Balu Balakrishnan at 254:6–256:6.

**B. Argument**

The entire premise of PI’s motion on “pre-knowledge infringement” is PI’s incorrect assertion that “[t]he undisputed date of PI’s first awareness of the patents is December 27, 2016.” PI Br. at 38. That date *is* disputed, by PI’s own corporate representative. On April 16, 2019, ON deposed Clifford Walker, who is PI’s Vice-President of Corporate Development and responsible for PI’s legal affairs, including this lawsuit. PI designated Mr. Walker on the Rule 30(b)(6) topic of “PI’s knowledge of the ON Semiconductor Patents, including when PI first became aware of these patents, who at PI first became aware of these patents, and how PI first became aware of these patents.” Ex. 18, PI’s Response to ON’s 30(b)(6) Deposition Notice at 41–42. Mr. Walker

testified under oath [REDACTED]

Ex. 19, April 16, 2019 Deposition of Clifford J. Walker at 314:4–8 and 316:16–22 [REDACTED]

[REDACTED] According to Mr. Walker,

[REDACTED]

Ex. 19 at 311:19–313:23; 317:13–25. The asserted patents in this case all issued to competitors of PI between 2006–2010. For example, the '298, '705, and '407 patents issued to System General Corporation on October 21, 2008, July 21, 2009, and September 14, 2010, respectively. *See* '298 patent (A1439); '705 patent (A1450); '407 patent (A1461). Mr. Walker testified that [REDACTED]

[REDACTED] Ex. 19 at 317:7–25. That testimony is consistent with Mr. Walker's testimony in a prior case that [REDACTED]

[REDACTED] (Ex. 20, November 24, 2009 Walker Dep. at 294:17–19), that [REDACTED]

[REDACTED] (*id.* at 104:18–19), and that, as of November 24, 2009, [REDACTED] (*id.* at 104:23–24). Based on Mr. Walker's testimony [REDACTED] a reasonable jury could find that PI knew of the asserted patents on or near their date of issuance.

PI's only evidence that it first became aware of the patents on December 27, 2016 is its own interrogatory response. PI Br. at 38. But PI's interrogatory response is unverified and contradicted by PI's own 30(b)(6) witness, and thus cannot justify summary judgment in PI's favor. *Wilson v. Frito-Lay N. Am., Inc.*, 260 F. Supp. 3d 1202, 1212 (N.D. Cal. 2017) (finding unverified interrogatory responses inadmissible at summary judgment stage). At the very least, Mr. Walker's testimony creates a fact issue as to the date of PI's first knowledge of the ON patents and summary judgment is inappropriate.

Moreover, because ON has identified evidence that puts the date on which PI became aware of the asserted patents is in dispute, PI's request to "cap the pre-knowledge royalty base" should also be denied. As discussed above, there is evidence that PI was aware of the asserted patents on or near the date of their issuance. In view of that evidence, the date on which PI's indirect infringement liability begins to run is a fact issue that is not amenable to summary judgment.

**VI. ON Corp. has standing at least as a counterclaim-defendant and counterclaim-plaintiff**

ON recognizes that the legal title to the asserted patents is held by Plaintiff Semiconductor Components Industries, LLC, which does business under the names "ON" and "ON Semiconductor." This case has been pending since March 2017 and PI waited two-and-a-half years to object to the presence of ON Semiconductor Corporation ("ON Corp."). ON Corp. is also a party in the parallel 2016 California Case and, in that lawsuit, PI has *never* moved to dismiss ON Corp. or its claims for lack of standing. It is not clear why the dismissal of ON Corp. is necessary at this time and PI says nothing about the ultimate strategic directive behind what appears to be a form-over-substance motion.

In any event, the law cited by PI only suggests, at most, that ON Corp. may lack standing as a patent infringement plaintiff. But in its counterclaims, PI accused ON Corp. of infringement (D.I. 34 at 16–59) and ON Corp. has asserted its own counterclaims to PI's claims of infringement (D.I. 53 at 13–24). ON Corp. therefore cannot "be dismissed" as PI requests in its motion, and it should be allowed to remain in this case as a party for all pending claims in this action.

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ASHBY & GEDDES

*Of Counsel:*

Roger Fulghum  
BAKER BOTTS L.L.P.  
One Shell Plaza  
910 Louisiana Street  
Houston, TX 77002-4995  
(713) 229-1707

Colette Reiner Mayer  
Morrison & Foerster LLP  
755 Page Mill Road  
Palo Alto, CA 94304-1018  
(650) 813-5600

*/s/ John G. Day*

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John G. Day (#2403)  
Andrew C. Mayo (#5207)  
500 Delaware Avenue, 8th Floor  
P.O. Box 1150  
Wilmington, DE 19899  
(302) 654-1888  
jday@ashbygeddes.com  
amayo@ashbygeddes.com

*Attorneys for Plaintiffs*